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Terms	Documents
aldehyde adj oxidase and maize	6

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side by side**Hit Count Set Name**
result set*DB=USPT,DWPI; PLUR=YES; OP=OR*

<u>L1</u>	aldehyde adj oxidase and maize	6	<u>L1</u>
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END OF SEARCH HISTORY

Set Name Query
side by side**Hit Count Set Name**
result set*DB=USPT;DWPI; PLUR=YES; OP=OR*

<u>L10</u>	L9 and dna	18	<u>L10</u>
<u>L9</u>	L7 and plant	26	<u>L9</u>
<u>L8</u>	L7 and cDNA	12	<u>L8</u>
<u>L7</u>	aldehyde adj oxidase	143	<u>L7</u>
<u>L6</u>	indoleacetaldehyde adj oxidase	0	<u>L6</u>

DB=USPT; PLUR=YES; OP=OR

<u>L5</u>	L1 and indoleacetaldehyde adj oxidase	0	<u>L5</u>
<u>L4</u>	L1 and aldehyde adj oxidase	0	<u>L4</u>
<u>L3</u>	L2 and oxidase.ab.	1	<u>L3</u>
<u>L2</u>	5458810	17	<u>L2</u>
<u>L1</u>	3438810	5	<u>L1</u>

END OF SEARCH HISTORY

=> file agricola biosis
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
16.43	16.64

FULL ESTIMATED COST

FILE 'AGRICOLA' ENTERED AT 12:57:40 ON 16 MAY 2002

FILE 'BIOSIS' ENTERED AT 12:57:40 ON 16 MAY 2002
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=> s aldehyde(w)oxidase and maize
L3 13 ALDEHYDE(W) OXIDASE AND MAIZE

=> d 13 1-13 au ti

- L3 ANSWER 1 OF 13 AGRICOLA
AU Barabas, N.K.; Omarov, R.T.; Erdei, L.; Lips, S.H.
TI Distribution of the Mo-enzymes **aldehyde oxidase**,
xanthine dehydrogenase and nitrate reductase in **maize** (Zea mays
L.) nodal roots as affected by nitrogen and salinity.
- L3 ANSWER 2 OF 13 AGRICOLA
AU Omarov, R.T.; Akaba, S.; Koshiba, T.; Lips, S.H.
TI **Aldehyde oxidase** in roots, leaves and seeds of barley
(Hordeum vulgare L.).
- L3 ANSWER 3 OF 13 AGRICOLA
AU Sekimoto, H.; Seo, M.; Kawakami, N.; Komano, T.; Desloire, S.; Liotenberg,
S.; Marion-Poll, A.; Caboche, M.; Kamiya, Y.; Koshiba, T.
TI Molecular cloning and characterization of **aldehyde**
oxidases in Arabidopsis thaliana.
- L3 ANSWER 4 OF 13 AGRICOLA
AU Koshiba, T.; Saito, E.; Ono, N.; Yamamoto, N.; Sato, M.
TI Purification and properties of flavin- and molybdenum-containing
aldehyde oxidase from coleoptiles of **maize**.
- L3 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Oliveira, L. (1); Vieira, V. (1); Tavares, J. (1); Garcia, P. (1)
TI Enzymatic identification of Glyptapanteles sp. (Insecta: Hymenoptera) from
Madeira Island.
- L3 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Akaba, Shuichi; Seo, Mitsunori; Dohmae, Naoshi; Takio, Koji; Sekimoto,
Hiroyuki; Kamiya, Yuji; Furuya, Nobuhisa; Komano, Teruya; Koshiba,
Tomokazu (1)
TI Production of homo- and hetero-dimeric isozymes from two **aldehyde**
oxidase genes of Arabidopsis thaliana.
- L3 ANSWER 7 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Barabas, N. Katalin (1); Omarov, Rustem T.; Erdei, Laszlo; Lips, S. Herman
TI Distribution of the Mo-enzymes **aldehyde oxidase**,
xanthine dehydrogenase and nitrate reductase in **maize** (Zea mays
L.) nodal roots as affected by nitrogen and salinity.
- L3 ANSWER 8 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Omarov, Rustem T. (1); Akaba, Shuichi; Koshiba, Tomokazu; Lips, S. Herman
TI **Aldehyde oxidase** in roots, leaves and seeds of barley
(Hordeum vulgare L.).
- L3 ANSWER 9 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Sekimoto, Hiroyuki; Seo, Mitsunori; Kawakami, Naoto; Komano, Teruya;
Desloire, Sophie; Liotenberg, Sylviane; Marion-Poll, Annie; Caboche,
Michel; Kamiya, Yuji; Koshiba, Tomokazu (1)

TI Molecular cloning and characterization of **aldehyde oxidases** in *Arabidopsis thaliana*.

L3 ANSWER 10 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Akaba, Shuichi (1); Kawakami, Naoto; Leydecker, Marie-Therese; Koshiba, Tomokazu (1)

TI Purification and properties of **aldehyde oxidase** from *Nicotiana plumbaginifolia* leaves.

L3 ANSWER 11 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Sekimoto, H.. (1); Seo, M.; Takio, K.; Kamiya, Y.; Koshiba, T.

TI Molecular cloning and sequence analysis of **aldehyde oxidase** from **maize**.

L3 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Sekimoto, Hiroyuki; Seo, Mitsunori; Dohmae, Naoshi; Takio, Koji; Kamiya, Yuji; Koshiba, Tomokazu (1)

TI Cloning and molecular characterization of plant **aldehyde oxidase**.

L3 ANSWER 13 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Koshiba, Tomokazu (1); Saito, Eriko; Ono, Naoki; Yamamoto, Naoki; Sato, Mitsuhiko

TI Purification and properties of flavin- and molybdenum-containing **aldehyde oxidase** from coleoptiles of **maize**.

=> d 13 1 4 7 11 12

L3 ANSWER 1 OF 13 AGRICOLA
 AN 2000:53894 AGRICOLA
 DN IND22059461
 TI Distribution of the Mo-enzymes **aldehyde oxidase**, xanthine dehydrogenase and nitrate reductase in **maize** (*Zea mays* L.) nodal roots as affected by nitrogen and salinity.
 AU Barabas, N.K.; Omarov, R.T.; Erdei, L.; Lips, S.H.
 AV DNAL (QK1.P5)
 SO Plant science, June 12, 2000. Vol. 155, No. 1. p. 49-58
 Publisher: Oxford, UK : Elsevier Science Ltd.
 CODEN: PLSCE4; ISSN: 0168-9452
 NTE Includes references
 CY Ireland
 DT Article
 FS Non-U.S. Imprint other than FAO
 LA English

L3 ANSWER 4 OF 13 AGRICOLA
 AN 97:860 AGRICOLA
 DN IND20537512
 TI Purification and properties of flavin- and molybdenum-containing **aldehyde oxidase** from coleoptiles of **maize**.
 AU Koshiba, T.; Saito, E.; Ono, N.; Yamamoto, N.; Sato, M.
 CS Tokyo Metropolitan University, Hachioji-shi, Tokyo, Japan.
 SO Plant physiology, Mar 1996. Vol. 110, No. 3. p. 781-789
 Publisher: Rockville, MD : American Society of Plant Physiologists, 1926-
 CODEN: PLPHAY; ISSN: 0032-0889
 NTE Includes references
 CY Maryland; United States
 DT Article; Conference
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English

L3 ANSWER 7 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2000:324027 BIOSIS

DN PREV200000324027
TI Distribution of the Mo-enzymes **aldehyde oxidase**,
xanthine dehydrogenase and nitrate reductase in **maize** (*Zea mays*
L.) nodal roots as affected by nitrogen and salinity.
AU Barabas, N. Katalin (1); Omarov, Rustem T.; Erdei, Laszlo; Lips, S. Herman
CS (1) Biostress Research Laboratory (J. Blaustein Institute for Desert
Researches) and Department of Life Sciences (Faculty of Natural Sciences),
Ben-Gurion University of the Negev, Sede Boqer Campus, Negev, 84990 Israel
SO Plant Science (Shannon), (June 12th, 2000) Vol. 155, No. 1, pp. 49-58.
print.
ISSN: 0168-9452.
DT Article
LA English
SL English

L3 ANSWER 11 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:380511 BIOSIS
DN PREV199799679714
TI Molecular cloning and sequence analysis of **aldehyde**
oxidase from **maize**.
AU Sekimoto, H.. (1); Seo, M.; Takio, K.; Kamiya, Y.; Koshiba, T.
CS (1) Dep. Life Sci., Univ. Tokyo, Tokyo Japan
SO Plant Physiology (Rockville), (1997) Vol. 114, No. 3 SUPPL., pp. 45.
Meeting Info.: PLANT BIOLOGY '97: 1997 Annual Meetings of the American
Society of Plant Physiologists and the Canadian Society of Plant
Physiologists, Japanese Society of Plant Physiologists and the Australian
Society of Plant Physiologists Vancouver, British Columbia, Canada August
2-6, 1997
ISSN: 0032-0889.
DT Conference; Abstract
LA English

L3 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:309456 BIOSIS
DN PREV199799617259
TI Cloning and molecular characterization of plant **aldehyde**
oxidase.
AU Sekimoto, Hiroyuki; Seo, Mitsunori; Dohmae, Naoshi; Takio, Koji; Kamiya,
Yuji; Koshiba, Tomokazu (1).
CS (1) Dep. Biol., Tokyo Metropolitan Univ. Hachioji-shi, Tokyo 192-03 Japan
SO Journal of Biological Chemistry, (1997) Vol. 272, No. 24, pp. 15280-15285.
ISSN: 0021-9258.
DT Article
LA English

=>

=> file agricola biosis
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FULL ESTIMATED COST

FILE 'AGRICOLA' ENTERED AT 14:14:02 ON 16 MAY 2002

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=> s aldehyde(w)oxidase and plant

L1 85 ALDEHYDE(W) OXIDASE AND PLANT

=> s l1 and clone

L2 2 L1 AND CLONE

=> d l2 1-2

L2 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1998:477816 BIOSIS

DN PREV199800477816

TI Biochemical and genetic characterization of three molybdenum cofactor hydroxylases in Arabidopsis thaliana.

AU Hoff, Tine (1); Frandsen, Gitte I.; Rocher, Anne; Mundy, John

CS (1) Dep. Plant Physiol., Univ. Copenhagen, Oester Farimagsgade 2A, 1353 Copenhagen K Denmark

SO Biochimica et Biophysica Acta, (July 9, 1998) Vol. 1398, No. 3, pp. 397-402.

ISSN: 0006-3002.

DT Article

LA English

L2 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1995:172176 BIOSIS

DN PREV199598186476

TI Cloning and molecular characterization of hxA, the gene coding for the xanthine dehydrogenase (purine hydroxylase I) of Aspergillus nidulans.

AU Glatigny, Annie; Scazzocchio, Claudio (1)

CS (1) Inst. Genetique Microbiol., Unite Associee CNRS 1354, Univ. Paris-Sud, Batiment 409, Cent. Orsay, F-91405 Orsay France

SO Journal of Biological Chemistry, (1995) Vol. 270, No. 8, pp. 3534-3550. ISSN: 0021-9258.

DT Article

LA English

=> d l1 1-10 au ti

L1 ANSWER 1 OF 85 AGRICOLA

AU Xiong, L.; Ishitani, M.; Lee, H.; Zhu, J.K.

TI The Arabidopsis LOS5/ABA3 locus encodes a molybdenum cofactor sulfurase and modulates cold stress- and osmotic stress-responsive gene expression.

L1 ANSWER 2 OF 85 AGRICOLA

AU Zdunek, E.; Lips, S.H.

TI Transport and accumulation rates of abscisic acid and ***aldehyde***
oxidase activity in Pisum sativum L. in response to suboptimal

growth conditions.

- L1 ANSWER 3 OF 85 AGRICOLA
AU Milborrow, B.V.
TI The pathway of biosynthesis of abscisic acid in vascular ***plants*** :
a review of the present state of knowledge of ABA biosynthesis.
- L1 ANSWER 4 OF 85 AGRICOLA
AU Barlaan, E.A.; Sato, H.; Mushika, J.; Yaketa, S.; Ichii, M.
TI Molecular mapping of the *cnx2* locus involved in molybdenum cofactor
biosynthesis in rice (*Oryza sativa* L.).
- L1 ANSWER 5 OF 85 AGRICOLA
AU Seo, M.; Koiwai, H.; Akaba, S.; Komano, T.; Oritani, T.; Kamiya, Y.;
Koshiba, T.
TI Absciscic ***aldehyde*** ***oxidase*** in leaves of *Arabidopsis*
thaliana.
- L1 ANSWER 6 OF 85 AGRICOLA
AU Seo, M.; Peeters, A.J.M.; Koiwai, H.; Oritani, T.; Marion-Poll, A.;
Zeevaart, J.A.D.; Koornneef, M.; Kamiya, Y.; Koshiba, T.
TI The *Arabidopsis* ***aldehyde*** ***oxidase*** 3 (AAO3) gene product
catalyzes the final step in abscisic acid biosynthesis in leaves.
- L1 ANSWER 7 OF 85 AGRICOLA
AU Omarov, R.T.; Akaba, S.; Koshiba, T.; Lips, S.H.
TI ***Aldehyde*** ***oxidase*** in roots, leaves and seeds of barley
(*Hordeum vulgare* L.).
- L1 ANSWER 8 OF 85 AGRICOLA
AU Sagi, M.; Omarov, R.T.; Lips, S.H.
TI The *mo*-hydroxylases xanthine dehydrogenase and ***aldehyde***
oxidase in ryegrass as affected by nitrogen and salinity.
- L1 ANSWER 9 OF 85 AGRICOLA
AU Akaba, S.; Leydecker, M.T.; Moureaux, T.; Oritani, T.; Koshiba, T.
TI ***Aldehyde*** ***oxidase*** in wild type and *abal* mutant leaves
of *Nicotiana plumbaginifolia*.
- L1 ANSWER 10 OF 85 AGRICOLA
AU Omarov, R.T.; Sagi, M.; Lips, S.H.
TI Regulation of ***aldehyde*** ***oxidase*** and nitrate reductase
in roots of barley (*Hordeum vulgare* L.) by nitrogen source and salinity.

=> s l1 and cloning

L3 15 L1 AND CLONING

=> d l3 1-15 au ti

- L3 ANSWER 1 OF 15 AGRICOLA
AU Xiong, L.; Ishitani, M.; Lee, H.; Zhu, J.K.
TI The *Arabidopsis* LOS5/ABA3 locus encodes a molybdenum cofactor sulfurase
and modulates cold stress- and osmotic stress-responsive gene expression.
- L3 ANSWER 2 OF 15 AGRICOLA
AU Sekimoto, H.; Seo, M.; Dohmae, N.; Takio, K.; Kamiya, Y.; Koshiba, T.

TI ***Cloning*** and molecular characterization of ***plant***
 aldehyde ***oxidase*** .

L3 ANSWER 3 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Yamamoto, Y. (1); Ueda, A.; Takabe, T. (1)
 TI Gene ***cloning*** and characterization of salt-inducible
 aldehyde ***oxidase*** in barley.

L3 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Bittner, Florian; Oreb, Mislav; Mendel, Ralf R. (1)
 TI ABA3 is a molybdenum cofactor sulfurase required for activation of
 aldehyde ***oxidase*** and xanthine dehydrogenase in
 Arabidopsis thaliana.

L3 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Xiong, Liming; Ishitani, Manabu; Lee, Hojoung; Zhu, Jian-Kang (1)
 TI The Arabidopsis LOS5/ABA3 locus encodes a molybdenum cofactor sulfurase
 and modulates cold stress- and osmotic stress-responsive gene expression.

L3 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Min, Xiangjia (1); Okada, Kazunori; Brockmann, Barbara; Koshiba, Tomokazu;
 Kamiya, Yuji
 TI Molecular ***cloning*** and expression patterns of three putative
 functional ***aldehyde*** ***oxidase*** genes and isolation of two
 aldehyde ***oxidase*** pseudogenes in tomato.

L3 ANSWER 7 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Liotenberg, Sylviane; North, Helen; Marion-Poll, Annie (1)
 TI Molecular biology and regulation of abscisic acid biosynthesis in
 plants .

L3 ANSWER 8 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Kurosaki, Mami; Demontis, Silvia; Barzago, Maria Monica; Garattini,
 Enrico; Terao, Mineko (1)
 TI Molecular ***cloning*** of the cDNA coding for mouse ***aldehyde***
 oxidase : Tissue distribution and regulation in vivo by
 testosterone.

L3 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Sekimoto, Hiroyuki; Seo, Mitsunori; Kawakami, Naoto; Komano, Teruya;
 Desloire, Sophie; Liotenberg, Sylviane; Marion-Poll, Annie; Caboche,
 Michel; Kamiya, Yuji; Koshiba, Tomokazu (1)
 TI Molecular ***cloning*** and characterization of ***aldehyde***
 oxidases in Arabidopsis thaliana.

L3 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Seo, Mitsunori (1); Sekimoto, Hiroyuki; Kamiya, Yuji; Delarue, Marianne;
 Bellini, Catherine; Caboche, Michel; Koshiba, Tomokazu (1)
 TI Molecular ***cloning*** of ***aldehyde*** ***oxidases*** from
 Arabidopsis seedlings.

L3 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AU Sekimoto, H.. (1); Seo, M.; Takio, K.; Kamiya, Y.; Koshiba, T.
 TI Molecular ***cloning*** and sequence analysis of ***aldehyde***
 oxidase from maize.

L3 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AU Sekimoto, Hiroyuki; Seo, Mitsunori; Dohmae, Naoshi; Takio, Koji; Kamiya, Yuji; Koshiba, Tomokazu (1)

TI ***Cloning*** and molecular characterization of ***plant***
aldehyde ***oxidase*** .

L3 ANSWER 13 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AU Li Calzi, Marco; Raviolo, Carlo; Ghibaudi, Elena; De Gioia, Luca; Salmona, Mario; Cazzaniga, Giovanni; Kurosaki, Mami; Terao, Mineko; Garattini, Enrico (1)

TI Purification, cDNA ***cloning*** , and tissue distribution of bovine liver ***aldehyde*** ***oxidase*** .

L3 ANSWER 14 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AU Glatigny, Annie; Scazzocchio, Claudio (1)

TI ***Cloning*** and molecular characterization of hxA, the gene coding for the xanthine dehydrogenase (purine hydroxylase I) of *Aspergillus nidulans*.

L3 ANSWER 15 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AU WARNER R L; KLEINHOF S A

TI GENETICS AND MOLECULAR BIOLOGY OF NITRATE METABOLISM IN HIGHER
PLANTS .

=> d 13 2 3 4 6 9 ab

L3 ANSWER 2 OF 15 AGRICOLA

L3 ANSWER 3 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

L3 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB The xanthine oxidase class of molybdenum enzymes requires a terminal sulfur ligand at the active site. It has been proposed that a special sulfurase catalyzes the insertion of this ligand thereby activating the enzymes. Previous analyses of mutants in ***plants*** indicated that the genetic locus *aba3* is involved in this step leading to activation of the molybdenum enzymes ***aldehyde*** ***oxidase*** and xanthine dehydrogenase. Here we report the ***cloning*** of the *aba3* gene from *Arabidopsis thaliana* and the biochemical characterization of the purified protein. ABA3 is a two-domain protein with a N-terminal NifS-like sulfurase domain and a C-terminal domain that might be involved in recognizing the target enzymes. Molecular analysis of three *aba3* mutants identified mutations in both domains. ABA3 contains highly conserved binding motifs for pyridoxal phosphate and for a persulfide. The purified recombinant protein possesses a cysteine desulfurase activity, is yellow in color, and shows a NifS-like change in absorbance in the presence of L-cysteine. Pretreatment of ABA3 with a thiol-specific alkylating reagent inhibited its desulfurase activity. These data indicate a transsulfuration reaction similar to bacterial NifS. In a fully defined *in vitro* system, the purified protein was able to activate ***aldehyde*** ***oxidase*** by using L-cysteine as sulfur donor. Finally, we show that the expression of the *aba3* gene is inducible by drought-stress.

L3 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB The final steps in the biosynthesis of the ***plant*** hormones abscisic acid (ABA) and indole-3-acetic acid (IAA) have been shown to be

catalyzed by ***aldehyde*** ***oxidases*** (AO). We have cloned three putative functional AO genes (TAO1, TAO2 and TAO3) and two putative AO pseudogenes (TAO4 and TAO5) in tomato. The TAO1 cDNA described here includes the correct amino terminus of the encoded TAO1 protein and is different at the 5'-end from the TAO1 sequence in GenBank (accession number U82558). Northern analysis shows that TAO1 is expressed mainly in vegetative tissues and TAO2 is expressed in both vegetative and reproductive tissues. TAO3 expression was not detectable by Northern hybridization. These results suggest that each AO may play different roles in the regulation of tomato growth and development.

L3 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Using degenerate primers designed by deduced amino acid sequences of known ***aldehyde*** ***oxidases*** (AO) from maize and bovine, two independent cDNA fragments were amplified by reverse transcription-polymerase chain reaction (PCR). The two corresponding full-length cDNAs (atAO-1 and atAO-2; 4,484 and 4,228 bp long, respectively) were cloned by screening the Arabidopsis cDNA library followed by rapid amplification of cDNA end-PCR. These cDNAs are highly homologous at both the nucleotide and amino acid sequence levels, and the deduced amino acid sequences showed high similarity with those of maize and tomato AOs. They contain consensus sequences for two iron-sulfur centers and a molybdenum cofactor (MoCo)-binding domain. In addition, another cDNA having a sequence similar to that of the cDNAs was screened (atAO-3; 3,049 bp), and a putative AO gene (AC002376) was reported on chromosome 1, which (atAO-4) was distinct from, but very similar to, the above three AOs. atAO-1, 2, 3, and 4 were physically mapped on chromosomes 5, 3, 2 and 1, respectively. These data indicate that there is an AO multigene family in Arabidopsis. atAO-1 protein was shown to be highly similar to one of the maize AOs in respect to a region thought to be involved in determination of substrate specificity, suggesting that they might encode a similar type of AO, which could efficiently oxidize indole-3-acetaldehyde to indole-3-acetic acid (IAA). atAO-1 and atAO-2 genes were expressed at higher levels in lower hypocotyls and roots of the wild-type seedlings, while atAO-3 was slightly higher in cotyledons and upper hypocotyls. The expression of atAO-1 was more abundant in the seedlings of an IAA overproducing mutant (superroot1; surl) than in those of wild type. atAO-2 and atAO-3 transcripts were rather evenly distributed in these seedlings. A possible involvement of atAO genes in phytohormone biosynthesis in Arabidopsis is discussed.

=> d 13 2 3 4 6 9

L3 ANSWER 2 OF 15 AGRICOLA
AN 1998:22283 AGRICOLA
DN IND20624902
TI ***Cloning*** and molecular characterization of ***plant***
aldehyde ***oxidase*** .
AU Sekimoto, H.; Seo, M.; Dohmae, N.; Takio, K.; Kamiya, Y.; Koshiba, T.
AV DNAL (381 J824)
SO The Journal of biological chemistry, June 13, 1997. Vol. 272, No. 24. p. 15280-15285
Publisher: Bethesda, Md. : American Society for Biochemistry and Molecular Biology.
CODEN: JBCHA3; ISSN: 0021-9258
NTE Includes references
CY Maryland; United States

DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English

L3 ANSWER 3 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2002:277638 BIOSIS
 DN PREV200200277638
 TI Gene ***cloning*** and characterization of salt-inducible
 aldehyde ***oxidase*** in barley.
 AU Yamamoto, Y. (1); Ueda, A.; Takabe, T. (1)
 CS (1) Graduate School of Bioagricultural Sciences, Nagoya University,
 Chikusa-ku, Nagoya, 464-8601 Japan
 SO Photosynthesis Research, (2001) Vol. 69, No. 1-3, pp. 197.
<http://www.kluweronline.com/issn/0166-8595>. print.
 Meeting Info.: 12th International Congress on Photosynthesis Brisbane,
 Australia August 18-23, 2001 International Society of Photosynthesis
 Research
 . ISSN: 0166-8595.

DT Conference
 LA English

L3 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2002:169245 BIOSIS
 DN PREV200200169245
 TI ABA3 is a molybdenum cofactor sulfurase required for activation of
 aldehyde ***oxidase*** and xanthine dehydrogenase in
 Arabidopsis thaliana.
 AU Bittner, Florian; Oreb, Mislav; Mendel, Ralf R. (1)
 CS (1) Botanical Inst., Technical University of Braunschweig, 38023,
 Braunschweig: R.Mendel@tu-bs.de Germany
 SO Journal of Biological Chemistry, (November 2, 2001) Vol. 276, No. 44, pp.
 40381-40384. <http://www.jbc.org/>. print.
 ISSN: 0021-9258.

DT Article
 LA English

L3 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2000:524828 BIOSIS
 DN PREV200000524828
 TI Molecular ***cloning*** and expression patterns of three putative
 functional ***aldehyde*** ***oxidase*** genes and isolation of two
 aldehyde ***oxidase*** pseudogenes in tomato.
 AU Min, Xiangjia (1); Okada, Kazunori; Brockmann, Barbara; Koshiba, Tomokazu;
 Kamiya, Yuji
 CS (1) Department of Forest Science, University of British Columbia,
 Vancouver, BC, V6T 1Z4 Canada
 SO Biochimica et Biophysica Acta, (2 October, 2000) Vol. 1493, No. 3, pp.
 337-341. print.
 ISSN: 0006-3002.

DT Article
 LA English
 SL English

L3 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1998:257083 BIOSIS
 DN PREV199800257083
 TI Molecular ***cloning*** and characterization of ***aldehyde***

oxidases in Arabidopsis thaliana.

AU Sekimoto, Hiroyuki; Seo, Mitsunori; Kawakami, Naoto; Komano, Teruya; Desloire, Sophie; Liotenberg, Sylviane; Marion-Poll, Annie; Caboche, Michel; Kamiya, Yuji; Koshiba, Tomokazu (1)

CS (1) Dep. Biol., Tokyo Metrop. Univ., Hachioji-shi, Tokyo 192-0397 Japan

SO Plant and Cell Physiology, (April, 1998) Vol. 39, No. 4, pp. 433-442. ISSN: 0032-0781.

DT Article

LA English

=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

56.18

56.39

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L1 ANSWER 1 OF 85 AGRICOLA

AU Xiong, L.; Ishitani, M.; Lee, H.; Zhu, J.K.

TI The Arabidopsis LOS5/ABA3 locus encodes a molybdenum cofactor sulfurase and modulates cold stress- and osmotic stress-responsive gene expression.

L1 ANSWER 2 OF 85 AGRICOLA

AU Zdunek, E.; Lips, S.H.

TI Transport and accumulation rates of abscisic acid and ***aldehyde***
 oxidase activity in Pisum sativum L. in response to suboptimal growth conditions.

L1 ANSWER 3 OF 85 AGRICOLA

AU Milborrow, B.V.

TI The pathway of biosynthesis of abscisic acid in vascular ***plants*** :
 a review of the present state of knowledge of ABA biosynthesis.

L1 ANSWER 4 OF 85 AGRICOLA

AU Barlaan, E.A.; Sato, H.; Mushika, J.; Yaketa, S.; Ichii, M.

TI Molecular mapping of the cnx2 locus involved in molybdenum cofactor biosynthesis in rice (Oryza sativa L.).

L1 ANSWER 5 OF 85 AGRICOLA

AU Seo, M.; Koiwai, H.; Akaba, S.; Komano, T.; Oritani, T.; Kamiya, Y.; Koshiba, T.

TI Abscisic ***aldehyde*** ***oxidase*** in leaves of Arabidopsis thaliana.

L1 ANSWER 6 OF 85 AGRICOLA

AU Seo, M.; Peeters, A.J.M.; Koiwai, H.; Oritani, T.; Marion-Poll, A.;
Zeevaart, J.A.D.; Koornneef, M.; Kamiya, Y.; Koshiba, T.
TI The Arabidopsis ***aldehyde*** ***oxidase*** 3 (AA03) gene product
catalyzes the final step in abscisic acid biosynthesis in leaves.

L1 ANSWER 7 OF 85 AGRICOLA

AU Omarov, R.T.; Akaba, S.; Koshiba, T.; Lips, S.H.

TI ***Aldehyde*** ***oxidase*** in roots, leaves and seeds of barley
(Hordeum vulgare L.).

L1 ANSWER 8 OF 85 AGRICOLA

AU Sagi, M.; Omarov, R.T.; Lips, S.H.

TI The mo-hydroxylases xanthine dehydrogenase and ***aldehyde***
oxidase in ryegrass as affected by nitrogen and salinity.

L1 ANSWER 9 OF 85 AGRICOLA

AU Akaba, S.; Leydecker, M.T.; Moureaux, T.; Oritani, T.; Koshiba, T.

TI ***Aldehyde*** ***oxidase*** in wild type and abal mutant leaves
of Nicotiana plumbaginifolia.

L1 ANSWER 10 OF 85 AGRICOLA

AU Omarov, R.T.; Sagi, M.; Lips, S.H.

TI Regulation of ***aldehyde*** ***oxidase*** and nitrate reductase
in roots of barley (Hordeum vulgare L.) by nitrogen source and salinity.

=> s l1 and plant and cDNA

0 ALDEHYDE
0 OXIDASE
0 ALDEHYDE(W) OXIDASE
13 PLANT
4 PLANTS
17 PLANT
(PLANT OR PLANTS)
13 PLANT
4 PLANTS
17 PLANT
(PLANT OR PLANTS)
0 CDNA

L4 0 L1 AND PLANT AND CDNA

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=> s l1 and plant and cDNA

L5 9 L1 AND PLANT AND CDNA

=> d 15 1-9

L5 ANSWER 1 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 2000:524828 BIOSIS
 DN PREV200000524828
 TI Molecular cloning and expression patterns of three putative functional
 aldehyde ***oxidase*** genes and isolation of two
 aldehyde ***oxidase*** pseudogenes in tomato.
 AU Min, Xiangjia (1); Okada, Kazunori; Brockmann, Barbara; Koshiba, Tomokazu;
 Kamiya, Yuji
 CS (1) Department of Forest Science, University of British Columbia,
 Vancouver, BC, V6T 1Z4 Canada
 SO Biochimica et Biophysica Acta, (2 October, 2000) Vol. 1493, No. 3, pp.
 337-341. print.
 ISSN: 0006-3002.
 DT Article
 LA English
 SL English

L5 ANSWER 2 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2000:430210 BIOSIS
 DN PREV200000430210
 TI Production of homo- and hetero-dimeric isozymes from two ***aldehyde***
 oxidase genes of Arabidopsis thaliana.
 AU Akaba, Shuichi; Seo, Mitsunori; Dohmae, Naoshi; Takio, Koji; Sekimoto,
 Hiroyuki; Kamiya, Yuji; Furuya, Nobuhisa; Komano, Teruya; Koshiba,
 Tomokazu (1)
 CS (1) Department of Biology, Tokyo Metropolitan University, Hachioji, Tokyo,
 192-0397 Japan
 SO Journal of Biochemistry (Tokyo), (Aug., 1999) Vol. 126, No. 2, pp.
 395-401. print.
 ISSN: 0021-924X.
 DT Article
 LA English
 SL English

L5 ANSWER 3 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2000:266132 BIOSIS
 DN PREV200000266132
 TI Functional expression of two Arabidopsis ***aldehyde***
 oxidases in the yeast Pichia pastoris.
 AU Koiwai, Hanae; Akaba, Shuichi; Seo, Mitsunori; Komano, Teruya; Koshiba,
 Tomokazu (1)
 CS (1) Department of Biological Sciences, Tokyo Metropolitan University,
 Hachioji-shi, Tokyo, 192-0397 Japan
 SO Journal of Biochemistry (Tokyo), (April, 2000) Vol. 127, No. 4, pp.
 659-664. print..
 ISSN: 0021-924X.
 DT Article
 LA English
 SL English

L5 ANSWER 4 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1999:386340 BIOSIS
 DN PREV199900386340
 TI Molecular cloning of the ***cDNA*** coding for mouse ***aldehyde***
 oxidase : Tissue distribution and regulation in vivo by
 testosterone.
 AU Kurosaki, Mami; Demontis, Silvia; Barzago, Maria Monica; Garattini,
 Enrico; Terao, Mineko (1)

CS (1) Laboratory of Molecular Biology, Centro Catullo e Daniela
Borgomainerio, Istituto di Ricerche Farmacologiche 'Mario Negri', via
Eritrea 62, 20157, Milano Italy

SO Biochemical Journal, (July 1, 1999) Vol. 341, No. 1, pp. 71-80.
ISSN: 0264-6021.

DT Article

LA English

SL English

L5 ANSWER 5 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1998:477816 BIOSIS

DN PREV199800477816

TI Biochemical and genetic characterization of three molybdenum cofactor
hydroxylases in Arabidopsis thaliana.

AU Hoff, Tine (1); Frandsen, Gitte I.; Rocher, Anne; Mundy, John

CS (1) Dep. Plant Physiol., Univ. Copenhagen, Oester Farimagsgade 2A, 1353
Copenhagen K Denmark

SO Biochimica et Biophysica Acta, (July 9, 1998) Vol. 1398, No. 3, pp.
397-402.
ISSN: 0006-3002.

DT Article

LA English

L5 ANSWER 6 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1998:257083 BIOSIS

DN PREV199800257083

TI Molecular cloning and characterization of ***aldehyde***
oxidases in Arabidopsis thaliana.

AU Sekimoto, Hiroyuki; Seo, Mitsunori; Kawakami, Naoto; Komano, Teruya;
Desloire, Sophie; Liotenberg, Sylviane; Marion-Poll, Annie; Caboche,
Michel; Kamiya, Yuji; Koshiba, Tomokazu (1)

CS (1) Dep. Biol., Tokyo Metrop. Univ., Hachioji-shi, Tokyo 192-0397 Japan

SO Plant and Cell Physiology, (April, 1998) Vol. 39, No. 4, pp. 433-442.
ISSN: 0032-0781.

DT Article

LA English

L5 ANSWER 7 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1997:381229 BIOSIS

DN PREV199799680432

TI Molecular cloning of ***aldehyde*** ***oxidases*** from
Arabidopsis seedlings.

AU Seo, Mitsunori (1); Sekimoto, Hiroyuki; Kamiya, Yuji; Delarue, Marianne;
Bellini, Catherine; Caboche, Michel; Koshiba, Tomokazu (1)

CS (1) Dep. Biol., Tokyo Metropolitan Univ., Tokyo Japan

SO Plant Physiology (Rockville), (1997) Vol. 114, No. 3 SUPPL., pp. 175-176.
Meeting Info.: PLANT BIOLOGY '97: 1997 Annual Meetings of the American
Society of Plant Physiologists and the Canadian Society of Plant
Physiologists, Japanese Society of Plant Physiologists and the Australian
Society of Plant Physiologists Vancouver, British Columbia, Canada August
2-6, 1997
ISSN: 0032-0889.

DT Conference; Abstract; Conference

LA English

L5 ANSWER 8 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1997:309456 BIOSIS

DN PREV199799617259
 TI Cloning and molecular characterization of ***plant*** ***aldehyde***
 oxidase
 AU Sekimoto, Hiroyuki; Seo, Mitsunori; Dohmae, Naoshi; Takio, Koji; Kamiya,
 Yuji; Koshiba, Tomokazu (1)
 CS (1) Dep. Biol., Tokyo Metropolitan Univ. Hachioji-shi, Tokyo 192-03 Japan
 SO Journal of Biological Chemistry, (1997) Vol. 272, No. 24, pp. 15280-15285.
 ISSN: 0021-9258.
 DT Article
 LA English

L5 ANSWER 9 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1996:76259 BIOSIS
 DN PREV199698648394
 TI Purification, ***cDNA*** cloning, and tissue distribution of bovine
 liver ***aldehyde*** ***oxidase***
 AU Li Calzi, Marco; Raviolo, Carlo; Ghibaudi, Elena; De Gioia, Luca; Salmona,
 Mario; Cazzaniga, Giovanni; Kurosaki, Mami; Terao, Mineko; Garattini,
 Enrico (1)
 CS (1) Mol. Biol. Unit, Centro Daniela e Catullo Borgomainerio, Ist. Ricerche
 Farmacol. "Mario Negri", via Eritrea 62, 20157 Milano Italy
 SO Journal of Biological Chemistry, (1995) Vol. 270, No. 52, pp. 31037-31045.
 ISSN: 0021-9258.
 DT Article
 LA English